

Volume of Prisms and Cylinders

Postulate 25 Volume of a Cube

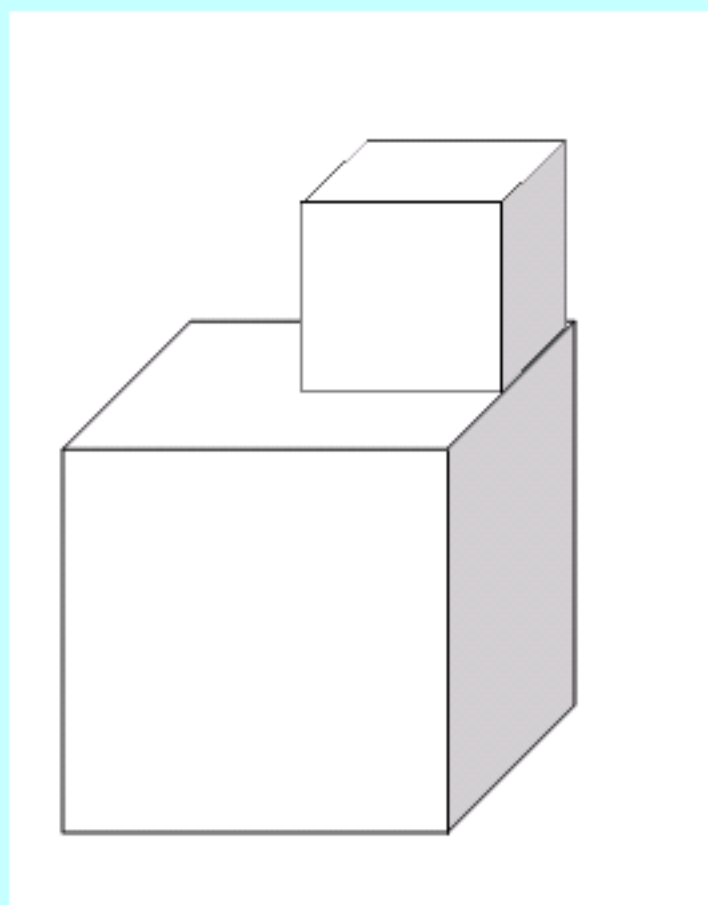
The volume of a cube is the cube of the length of its side, or

$$V = s^3$$

Postulate 27 Volume Addition Postulate

The volume of a solid is the sum of the volumes of all its non-overlapping parts.

Find the volume of the solid below.



The bottom cube has side lengths of 2 and the top cube has side lengths of 1.

Theorem 12.7 Volume of a Prism

The volume, V , of a prism is $V = Bh$, where B is the area of a base and h is the height.

If a cardboard box has the dimensions of 5' X 3' X 4'. How many 1' X 2' X 1' rectangular prisms would fit inside?

Theorem 12.8 Volume of a Cylinder

The volume, V , of a cylinder is

$$V = Bh = \pi r^2 h,$$

where B is the area of a base, h is the height, and r is the radius of a base

Collaborative Pairs – p. 610 (3 – 8)

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Homework – Extra Practice 12.4 (1-4, 10, 11)

Can a cylinder and a rectangular prism have the same volume?
Explain.